SOFTWARE CONFIGURATION MANAGEMENT
UTILIZING CDMD-OA

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BACKGROUND

- Need for Navy wide Software CM is apparent
    - Multiple fragmented systems
- NAVSEA 04L has CM Policy/Process responsibility
- CDMD-OA is the mandated CM repository for NAVSEA
- NAVSEA 04L developed policy/procedures & prototyped
    - TR01 Battle Force
- Prototype is being evaluated

REQUIREMENT

- Accurate and comprehensive software configuration is essential to facilitate interoperability assessments, determine unit capabilities, and ensure appropriate training and support.

    - Software configurations must be not only accurately recorded, but widely accessible

    - In order to make intelligent decisions on software configurations, all decision makers must be using the same data

    - Multiple systems and processes are in use today, producing several incomplete views of any given unit's software configuration

    - A common system is required for recording software configuration

    - CDMD-OA is the NAVSEA mandated configuration recording tool

NAVSEA 04L ACTIONS

- Established software CM process utilizing CDMD-OA
  - Met with SSAs, ISEAs, CDMs, Program Managers and programmers
    - Assessed current CDMD-OA and SSA/ISEA/CDM procedures
    - Determined required software CM data elements
    - Reviewed data element structure, use, and edit checks
  - Developed initial software CM process
    - Defined CDMD-OA data elements to be used
    - Determined XRIC and Record Types 2 and 4 to be used
    - Defined changes to CDMD-OA data elements to record software data
    - Reviewed process with programmers and SSAs/ISEAs/CDMs
    - Generated sample records to test process
    - Verified edit checks and formatted data entries (in use)

NAVSEA 04L ACTIONS

- Implemented software CM process on a limited basis
  - Discussed limited implementation with SSAs/ISEAs/CDMs/PGM MGRs
  - Decision - prototype to test process
    - Utilizing NAVSEA 53 high interest systems
    - Focus TR 01 Battle Force ships
  - Held software CM workshop
    - Presented process to community
    - Accepted comments for process changes
    - Kicked off the prototype
  - Collected data on software CM prototype systems
    - 157 records on 25 systems in 12 ships to date
    - 1800 other software records also in system

PROTOTYPE SHIPS/SYSTEMS

System	CVN 71 SNAP I	CG 55 SNAP II	CG 72 SNAP II	DDG 61 OPTIMIZED	DDG 71 OPTIMIZED	DD 969 SNAP II	DD 997 SNAP II	FFG 55 SNAP II	SSN 761 OPTIMIZED	SSN 768 OPTIMIZED	AOE 4 SNAP II	LHD 5 SNAP I	LPD 12 OPTIMIZED	LSD 41 SNAP II
TAS MK 23	X					X	X				X			
AN/SPS-48E	X											X		
CIFF (UPX-29)		X	X	X	X									X
AUTO ID	X													
SYS-2 IADT	X							X				X		
AN/SYQ-17 RAIDS						X	X	X						
MK 92								X						
NSSMS MK 57	X					X	X					X		
RAM MK 31												X		
CIWS MK 15	X	X	X	X	X	X	X	X			X	X	X	X
AN/SQQ-89		X	X	X	X	X	X	X						
CV-TSC SQQ-34	X													
AN/TPX-42(V)	X											X		
AWS		X	X	X	X									
RADDS/ASDS	X							X			X	X	X	X
CDS/ACDS BLK 0/1	X					X	X	X				X		
SSDS MK1/2														X
GCCS-M	X	X	X	X	X	X	X	X	X	X	X	X	X	X
C2P	X	X	X	X	X									
SGS/AC	X	X	X	X	X							X		
AN/SLQ-32(V)	X	X	X	X	X	X	X	X			X	X	X	X
NAVSSI	X(blk3)	X (blk2)	X(blk2)		X(blk3)	X (blk2)	X (blk2)							
AN/WSN-7 (RLGN)	X	X	X		X									
BFTT			X											X

Systems shown in **BOLD** have software records entered in CDMD-OA

RESPONSIBILITIES

- ◆ SEA0 4L5/SPM/PARM
    - ▪ Define S/W Configuration Management Process
    - ▪ Develop and implement prototype process
    - ▪ Submit SRS for required CDMD-OA changes
    - ▪ Develop and promulgate guidance for S/W CM process
    - ▪ Measure effectiveness
- ◆ ISEAs/SSAs/SPM/PARM
    - ▪ Define software configurations
    - ▪ Generate Work Files containing required S/W data
    - ▪ Measure effectiveness
- ◆ CDMs/SPM/PARM
    - ▪ Review and validate the Work Files
    - ▪ Upload the Work Files
    - ▪ Measure effectiveness

PROTOTYPE SYSTEM

- Utilizing CDMD-OA RT-2 and RT-4 records
  - RT-2 for software versions - RT-4 for patches or future versions
  - Modified some data elements to record software version data
  - Assign XRICs for software records
    - Utilize Tabs within XRIC structure for detailed build information
  - Associate software with system/ hardware by use of hardware NHA and NHA RIN
  - Utilize DISCPL code of "V" for software, and "SWFTR" for SAC
  - Record media type and serial number
- Able to sort CDMD-OA for software records only
- Able to generate NAVSEA 53 requested report of installed software
- Able to generate VALAIDS for software validation

DATA ELEMENTS

- RIC - XRIC utilized for non-provisioned software
  - XSFT00 + assigned number
  - Tab A - RIC NM = Software Version ID
  - Tab B - EIN = Software Version ID , CAGE
  - TAB C - SW:(software Version ID):(narrative)
- EIN - Software version number   - SAC - SWFTR
- NHA - EIN of parent hardware   -   DISCPL - V
- SN - Media and Serial Number   -   DISI - A
- P RIC - Parent Hardware RIC
- P SN - Serial Number of Parent Hardware
- EFD - Parent system and software ID

- Provisioned software
  - Some systems are utilizing NAVICP generated RICs for recording software configurations
  - Changing existing records/processes would be wasteful
  - Modification of NAVICP records will allow their data to be used with this process
    - SAC =" SWFTR" and DISCPL = "V" will ID a software record
    - EIN = Software Version will describe the configuration item installed
    - Media, parent system and location data TBD.

PROTOTYPE FINDINGS

- Getting" buy in" is difficult
  - Despite meetings, phone calls, and e-mails
    - Individual contacts were required for each system
    - Often multiple levels of each command had to be contacted
    - Both documentation and individual education were required
  - Many records were inaccurate at first
    - The process was not well understood
    - Minor format errors were numerous
    - After one or two tries, those using the system seemed to find it easy
  - Accuracy and participation improved as time went on
    - Resistance declined as word got around
    - Fewer errors were seen as people got used to the format
    - Some systems expanded their records beyond the prototype

STATUS

- Presently
  - Not all prototype systems are recorded
    - Expect NAVAIR systems soon
  - XRICs are still manually issued
  - Initial validation of ships has been performed
  - Incomplete integration of NAVICP records
- In the future
  - Will expand beyond the TR 01 BF ships
  - Will complete the 27 systems of interest and then expand
  - Will automate the XRIC generation process
  - Will incorporate validation into the pre-deployment process

THIS MEETING

- Will hear from SSA/ISEA/CDM representatives
  - Their view of the process
    - Impact on their resources
    - Good and bad points of the process
- Will hear from Validation personnel
  - How validation of TR 01 went
  - How to incorporate software validation into their overall process
- Will hear again from NAVSEA 53
  - How well data is meeting their needs
  - Additional requirements and future plans
- Hopefully we will hear from YOU!

Representation
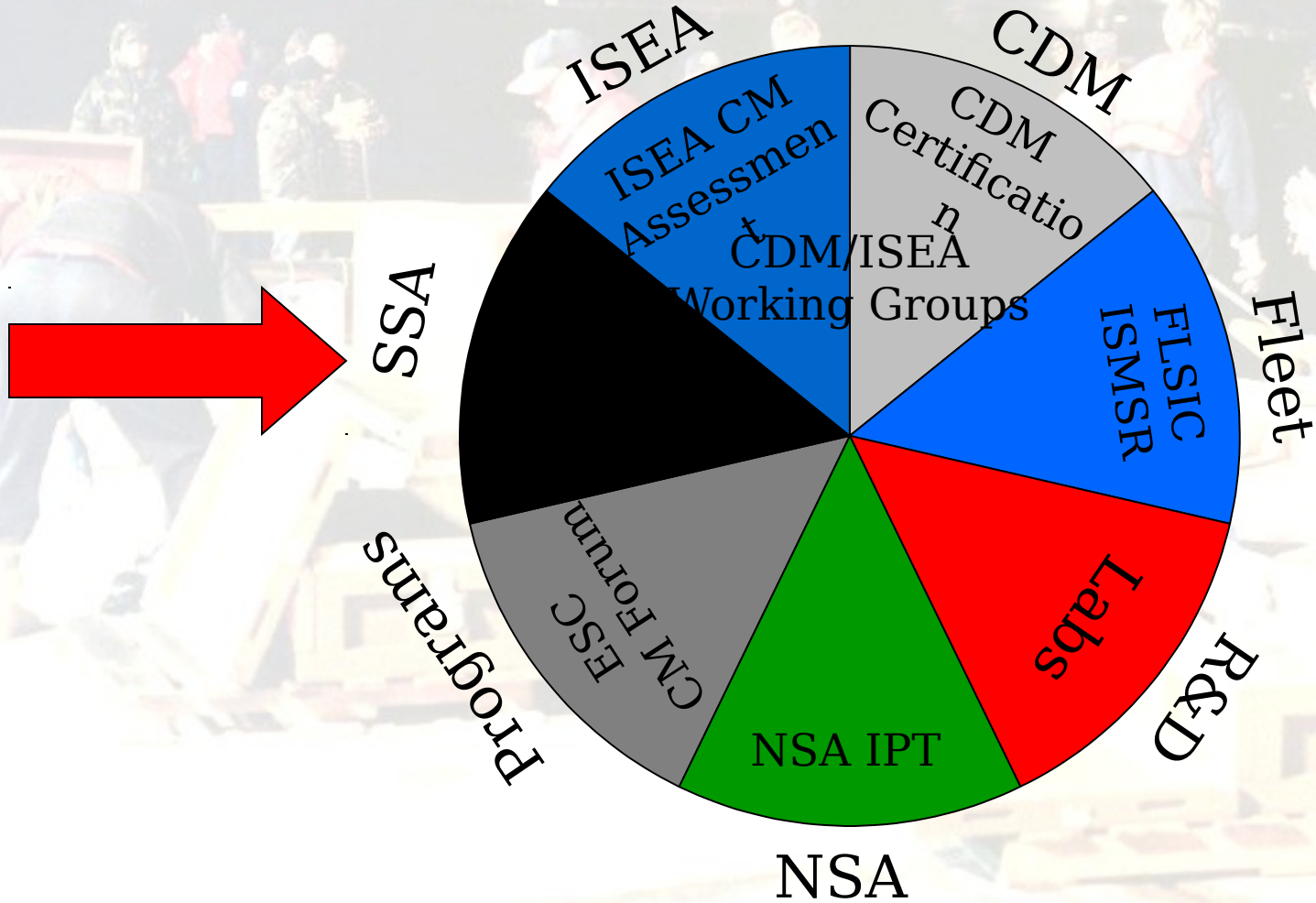
END OF PART 1

FUTURE PLANS

- Automate XRIC generation process
  - Define requirements
  - Meet with NSLC personnel to finalize
  - Test when completed
- Expand Battle Force/ System Coverage
  - Contact SSAs/ISEAs to request additional records
  - Test Battle Force sorting process
  - Evaluate Battle Force reports
- Document software CM process
  - Refine and promulgate concise process description
  - Confirm changes are implemented in applicable instructions

FUTURE PLANS

- Incorporate requested changes
  - Additional data elements (type of installation)
  - Additional levels of software reporting
  - Modify existing reports and develop additional ones
  - Planned installations
- Transition to life cycle process
  - Develop plan to transition process
  - Transition maintenance of process to life cycle agency

WEB SITE INFORMATION

http://www.cm.navsea.navy.mil/cdm/index.nsf

Category

CM Software

General Source

Software Prototype Initiative Agenda (5-6 June 2001)

Meeting Minutes

Software CM Prototype Initiative Minutes (5 June 2001)

Source

Instructions

Policy NAVSEA Note 4130
Data Item Descriptions (Draft) 80336B & 80337B
NAVSEAINST 4130X[1].XX2
NAVSEA INSTR. 4130.16A

Tech-Specs

Policy SCLSIS Tech Spec Rev D
Data Element Dictionary & Data Specs